ABSTRACT

(000100) A wind energy conversion system includes upper and lower wind turbines having counter-rotating blade assemblies supported for rotation about a vertical rotation axis, with each blade assembly carrying a rotor for rotation past a stator to produce an electrical output. The wind turbines are supported by a tower at an elevated position above the ground. Each wind turbine produces torque, and the wind energy conversion system provides for balancing the torques to avoid a net torque on the tower. Adjustment mechanisms are provided for adjusting blade pitch and for adjusting the size of an air gap between a stator and a rotor that comes into alignment with the stator as the rotor rotates therepast. The wind energy conversion system provides a hood for supplying intake air to a wind turbine and an exhaust plenum for exhausting air from the wind turbine, with the hood and the exhaust plenum being directionally positionable.